

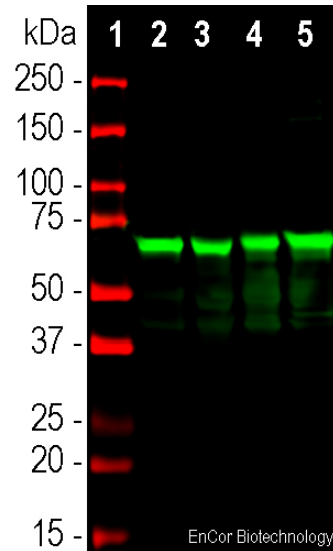
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HGNC Name: NEFL
UniProt: P07196
RRID: AB_2813766
Immunogen: C-terminal peptide of human NF-L protein, GEEEDTKESEEEEKKEESAGEEQVAKKKD with an N-terminal C for coupling to KLH
Format: Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM Na₂S₂O₃
Storage: Store at 4°C for short term, for longer term at -20°C.
Recommended dilutions:
 WB: 1:5,000 IF/ICC 1:1,000 IHC 1:4,000

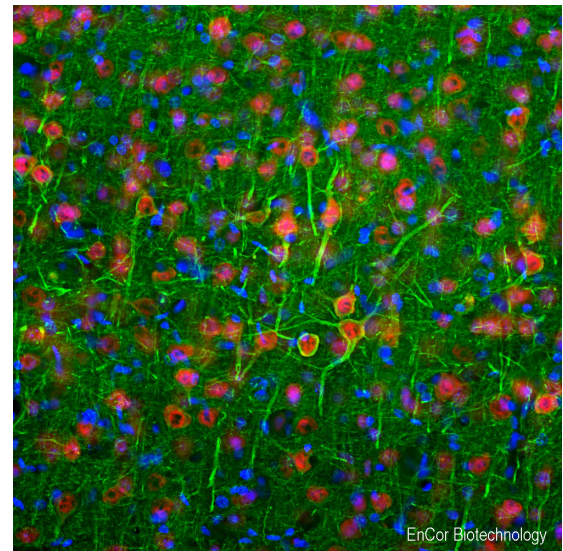
References:

- Hoffman et al. Neurofilament gene expression: a major determinant of axonal caliber. *PNAS* 84:3472-6 (1987).
- Perrot R, et al. Review of the Multiple Aspects of Neurofilament Functions, and their Possible Contribution to Neurodegeneration. *Mol. Neurobiol.* 38:27-65 (2008).
- Lépinoux-Chambaud C. Eyer J. Review on intermediate filaments of the nervous system and their pathological alterations. *Histochem. Cell Biol.* 140:13-22 (2013).
- Liu Q. et al. Neurofilamentopathy in Neurodegenerative Diseases. *Open Neurol. J.* 5:58-62 (2011).
- Bacioglu M, et al. Neurofilament light chain in blood and CSF as marker of disease progression in mouse models and in neurodegenerative diseases. *Neuron* 91:56-66 (2016).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/ICC, IHC	Mouse	IgG1	68kDa by SDS-PAGE	Hu, Rt, Ms, Co, Pi,



Western blot analysis of spinal cord lysates from different species using mouse monoclonal antibody to NF-L, MCA-6H112, dilution 1:5,000 in green: [1] protein standard (red), [2] rat, [3] mouse, [4] pig, and [5] cow spinal cord. Strong band at about 70kDa corresponds to the NF-L protein.



Immunofluorescent analysis of a rat frontal cortex section stained with mouse mAb to NF-L, MCA-6H112, dilution 1:2,000 in green, and costained with rabbit pAb to FOX3/NeuN, [RPCA-FOX3](#), dilution 1:2,000 in red. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45µm, and free-floating sections were stained with the above antibodies. The MCA-6H112 antibody labels the cell bodies and processes of pyramidal neurons, as well as dendrites and axons of other neuronal cells, while the FOX3/NeuN antibody selectively stains nuclei and cytoplasm of neuronal cells.

Background:

Neurofilaments are the 10nm or intermediate filament proteins found specifically in neurons, and are composed predominantly of three major proteins called NF-L, NF-M and NF-H, though other filament proteins may be included also. The major function of neurofilaments is likely to control the diameter of large axons (1). NF-L is the neurofilament light or low molecular weight polypeptide and runs on SDS-PAGE gels at 68-70kDa with some variability across species. Antibodies to NF-L like MCA-6H112 are useful for identifying neuronal cells and their processes in cell culture and sectioned material. NF-L antibody can also be useful for the visualization of neurofilament rich accumulations seen in many neurological diseases, such as Lou Gehrig's disease (ALS), giant axon neuropathy, Charcot-Marie Tooth disease and others (2-4). Much interest has recently been focused on the detection of NF-L released from neurons into blood and CSF as a surrogate marker of primarily axonal loss in a variety of types of CNS injury and degeneration (5).

MCA-6H112 was made against the peptide GEEEDTKESEEEEKKEESAGEEQVAKKKD with an N-terminal cysteine added by which it was coupled to keyhole limpet hemocyanin. This is the C-terminal peptide of human NF-L, amino acids 514-542. The properties of this antibody make it useful for western blotting, cell and tissue staining and monitoring NF-L proteolysis. The antibody works well for western blotting and for IF, ICC and IHC (for IHC see data under "Additional Info" tab). We also market several other NF-L antibodies including a rabbit and chicken polyclonal antibodies, [RPCA-NF-L](#) and a [CPCA-NF-L](#), both made against full length recombinant human NF-L. We also have several epitope mapped mouse monoclonals including the widely used and epitope mapped [MCA-DA2](#), see [here](#).

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Abbreviation Key:

mAb—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry
IHC—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Co**—Cow **Pi**—Pig **Ho**—Horse **Ch**—Chicken
Dr—D. rerio **Dm**—D. melanogaster **Sm**—S. mutans **Ce**—C. elegans **Sc**—S. cerevisiae **Sa**—S. aureus **Ec**—E. coli.